Independent claim 6 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Moustakas in view of Tomita. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 6 as amended requires "in order to form the layer comprising amorphous silicon, applying first and second high frequency voltages between a first pair of electrodes and between a second pair of electrodes, respectively, to cause plasma discharge, the first and second high frequency voltages being modulated in accordance with first and second pulse waves, respectively, wherein *ON periods of the first and second pulse waves are controlled so as not to overlap or coincide with each other*, and wherein ON periods of the first and second pulse waves are shorter than corresponding OFF periods." For example, see Fig. 2 of the instant application where ON periods of first and second waves are controlled so as to not overlap or coincide with each other (see also pg. 4, lines 20-24, of the instant specification). This is advantageous in that plasma discharge interference can be surprisingly and unexpectedly reduced even if power is increased (e.g., pg. 8, lines 4-11).

Both Moustakas and Tomita fail to disclose or suggest the aforesaid underlined aspect of claim 6. Thus, even if the two references were combined as alleged in the Office Action (which applicant believes would be incorrect in any event), the invention of claim 6 still would not be met.

Claim 6 further stands rejected under Section 103(a) as being allegedly unpatentable over Moustakas in view of Noriyuki (JP 2000-223424) {note: the instant application claims priority on Noriyuki}. This Section 103(a) rejection is respectfully

traversed for at least the following reasons. Noriyuki is not prior art to claim 6. In particular, claim 6 is fully supported by the parent disclosure filed January 27, 2000, which claims priority on JP Hei 11 (1999)-022274 (Noriyuki). Noriyuki only published on August 11, 2000, which is after the U.S. filing date of the supporting parent application. Accordingly, it can be seen that Noriyuki is not prior art to claim 6, and cannot be used against the same. The Section 103(a) rejection is fundamentally flawed in this respect.

Claim 1

Independent claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Moustakas in view of Tomita. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires "in order to form the layers comprising amorphous silicon, applying first and second high frequency voltages between the first pair of electrodes and between the second pair of electrodes, respectively, to cause plasma discharge, the first and second high frequency voltages being modulated in accordance with first and second pulse waves, respectively, wherein *ON periods of the first and second pulse waves are controlled so as not to overlap or coincide with each other*, and wherein ON periods of the first and second pulse waves are shorter than corresponding OFF periods."

As explained above, both Moustakas and Tomita fail to disclose or suggest the aforesaid underlined aspect of claim 1. Thus, even if the two references were combined as alleged in the Office Action (which applicant believes would be incorrect in any event), the invention of claim 1 still would not be met.

Claim 1 further stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Moustakas in view of Noriyuki (JP 2000-223424). This Section 103(a) rejection is respectfully traversed for at least the following reasons. It is respectfully submitted that there is no suggestion present in the art of record which would have caused one of ordinary skill to have combined Moustakas and Noriyuki as alleged in the Office Action. In particular, Moustakas relates to a method of making a p-i-n device; whereas Noriyuki is silent in this respect. There is no suggestion in the art of record which would have caused one of ordinary skill to have used the technique of Noriyuki in a pin method of manufacture as in Moustakas. Hindsight is not permissible.

For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please cancel claims 2 and 7.

1. (Amended) A solar cell production method comprising[the steps of]:

forming a first electrode layer on a substrate,

sequentially forming a p-layer, an i-layer and an n-layer comprising amorphous silicon on the first electrode layer, [and]

forming a second electrode layer on the n-layer,

in order to form the layers comprising amorphous silicon, applying first and second high frequency voltages between the first pair of electrodes and between the second pair of electrodes, respectively, to cause plasma discharge, the first and second high frequency voltages being modulated in accordance with first and second pulse waves, respectively, wherein ON periods of the first and second pulse waves are controlled so as not to overlap or coincide with each other, and wherein ON periods of the first and second pulse waves are shorter than corresponding OFF periods, and

wherein the i-layer is formed by a plasma CVD method employing plasma discharge caused by application of a pulse-modulated high frequency voltage having a pulse ON time of not longer than [50]10 μsec and a duty ratio of not higher than [50%]20% to improve a photo-electric conversion efficiency of the solar cell.

6. (Amended) A method of making a solar cell, the method comprising:

forming [a first electrode layer so as to be supported by a substrate,

forming a p-layer, an i-layer and an n-layer]a layer comprising amorphous silicon, [and

thereafter forming a second electrode layer,]

wherein the [i-layer]layer comprising amorphous silicon is formed by a plasma CVD method comprising employing plasma discharge caused by application of a pulse-modulated high frequency voltage having a pulse ON time of not longer than [50]10 μsec and a duty ratio of a pulse-modulated high frequency voltage used in said forming is not higher than 20% to improve a photo-electric conversion efficiency of the solar cell[.], and

in order to form the layer comprising amorphous silicon, applying first and second high frequency voltages between a first pair of electrodes and between a second pair of electrodes, respectively, to cause plasma discharge, the first and second high frequency voltages being modulated in accordance with first and second pulse waves, respectively, wherein ON periods of the first and second pulse waves are controlled so as not to overlap or coincide with each other, and wherein ON periods of the first and second pulse waves are shorter than corresponding OFF periods.

Please add the following new claims:

9. (New) The method of claim 1, wherein the ON periods of the first and second waves are spaced apart to provide OFF periods in between.

10. (New) The method of claim 6, wherein the ON periods of the first and second waves are spaced apart to provide OFF periods in between.